

LISTING OF CLAIMS

1-2. (canceled)

3. (currently amended) A recombinant nucleic acid comprising a nucleic acid that will hybridizes under high stringency conditions to a nucleic acid having a sequence selected from the group consisting of the sequences or complement of the sequences, shown in SEQ ID NOs: 8, 10, 12, 14 and 16, under the high stringency conditions of washes at 0.1XSSC at 65°C for 2 hours.

4. (currently amended) ~~The nucleic acid of claim 3~~ A recombinant nucleic acid comprising DNA having a sequence identical to that shown in the sequences to a nucleic acid having the sequence selected from the group consisting of SEQ ID NOs: 8, 10, 12, 14, and 16.

5. (original) An expression vector comprising transcriptional and translational regulatory nucleic acid operably linked to the nucleic acid of claim 3 or 4 encoding an *Haemophilus* adhesion and penetration protein.

6. (original) A host cell transformed with an expression vector of claim 5.

7. (currently amended) A method of producing an *Haemophilus* adhesion and penetration protein comprising:

- a) culturing a host cell transformed with ~~an expressing the expression vector of claim 5 comprising a nucleic acid encoding an Haemophilus adhesion and penetration protein;~~ and
- b) expressing said nucleic acid to produce an *Haemophilus* adhesion and penetration protein.

8-16. (canceled)

17. (new) A recombinant nucleic acid encoding an *Haemophilus* adhesion and penetration protein comprising DNA having a nucleic acid sequence at least 80% identical to a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 8, 10, 12, 14, and 16.

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18. (new). The recombinant nucleic acid of claim 17, wherein said nucleic acid comprises DNA having a nucleic acid sequence at least 90% identical to a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 8, 10, 12, 14, and 16.

19. (new). The recombinant nucleic acid of claim 17, wherein said nucleic acid comprises DNA having a nucleic acid sequence at least 95% identical to a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 8, 10, 12, 14, and 16.

20. (new). The recombinant nucleic acid of claim 17, wherein said nucleic acid comprises DNA having a nucleic acid sequence at least 98% identical to a nucleic acid sequence selected from the group consisting of SEQ ID NOs: 8, 10, 12, 14, and 16.